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Appendix 6B

OU-6 Database Export

Appendix 6B: Analytical Database Export User Guide

This Analytical Database Export Users Guide has been developed to aid users of the attached export from the Environmental Data Management System (EDMS) representing the final analytical data associated with the Anaconda Copper Mine Site (Site), Lyon County, Nevada.

Database Overview

The EDMS is a relational database that can manage the large quantity and wide variety of environmental data generated at the Site. The structure of the relational database has been normalized so that each piece of information is stored only once and that data duplication and divergence are avoided. Referential integrity is strictly enforced through indexes, key fields, and relationships. Lookup tables and valid values provide consistent nomenclature of sample locations, well identifications, chemical names, units, etc. The relational database architecture provides excellent data quality and integrity, quick access and manipulation for large data files, and optimal storage space on the data server.

Site data is managed by the Environmental Quality Information System (EQuIS). EQuIS is a software system produced by EarthSoft, Inc., and is used to store field data and associated laboratory results from sampling locations. EQuIS is widely used throughout the environmental industry and has many modules for integration into other specialist programs used for Site data such as ArcGIS.

Database Export Overview

Exports of analytical data in the EDMS are prepared following verification and validation of data generated from the related investigation or program. Beginning July 2019, data has been exported to Microsoft Excel only and no longer provided in Microsoft Access format, unless directed. This change seeks to make data more functional to users of the reported results. The Microsoft Excel export represents an updated snapshot of the primary data fields contained in the EDMS for a given date range. The export is provided as a comprehensive table of data contained in select fields from EQuIS. This document describes the data fields included in the Microsoft Excel deliverable to support user understanding of database related nomenclature. In addition, working data tables have been created from queries into a cross tabulated format which may aid to support statistics or other software tools employed by users.

Database Export Table – Field Definitions

The following are explanations of the 16 fields contained in the Microsoft Excel deliverable 'DB Export' tab and will be provided in "Column ID: Field Name" format.

1. Sort Location – includes a leading 0 in certain well IDs to allow an numerically ordered sort
2. Location Name – assigned well ID
3. Sample Type – describes whether sample is a primary sample (N) or field quality control sample (FD)
    a. N = normal environmental sample (primary sample)
    b. FD = field duplicate sample
4. Sample Date – sample collection date
5. Zone ID – depth zone description of sample (if applicable)
6. Easting – x-coordinate of sample location
7. Northing – y-coordinate of sample location
8. Analytical Method – laboratory test method

9. Fraction – describes if test results represent exclusively the dissolved (e.g., water soluble) parameter from field filtered samples or not, most often used for metals and radionuclides.
    a. D = dissolved parameter (field filtered)
    b. T = total parameter (not field filtered)
    c. N =not applicable parameter (to test method).
10. Parameter – name of analyte tested
11. Report Result – text formatted result to include symbols and qualifiers as part of the final result as shown in tables
12. Result Value – numeric formatted result excluding any related symbols or qualifiers
    a. Detections reflect the measured concentration in the sample
    b. Non-detects reflect the method detection limit for the sample
13. Final Qualifier – alpha character resulting from data verification and validation following the rules described in the Site-wide QAPP
    a. J = estimated value
    b. U = non-detect value
    c. UJ = estimated non-detect value
    d. R = rejected value
    e. UR = rejected non-detect value
14. Reason Code – alpha character supporting the Final Qualifier defining the cause for qualifying the reported values to indicate bias following the rules described in the Site-wide QAPP
15. RDL – reporting detection limit (e.g., practical quantitation limit)
16. MDL – method detection limit (e.g., minimum quantitation limit)

Working Table - Field Descriptions

Three crosstab (X-Tab) data tables (worksheets) are included to format data in a location-row, parameter-column layout for easier data manipulation. These worksheets organize results by fraction (as defined in the Fraction field of the comprehensive export).

1. D Fraction X-Tab = dissolved parameter results (field filtered)
2. T Fraction X-Tab = total parameter results (not field filtered)
3. N Fraction X-Tab =not applicable parameter results (to test method).

An additional binary column field (D_parameter name) is paired with the parameter value (numeric format) column where a ‘0’ denotes a non-detect value and a ‘1’ denotes a detected value. The working tables represent a subset of the more comprehensive fields in the database export file and exclude any rejected data results which are deemed invalid and not useable.